PHILADELPHIA, AUGUST 30, 1879.

ORIGINAL COMMUNICATIONS.

OPTIC NEURITIS AS A SYMPTOM OF INTRACRANIAL DISEASE.

BY WILLIAM F. NORRIS, M.D.

Read at the Meeting of the Pathological Society, April 24, 1879.

THAT certain forms of blindness and impaired vision are frequent accompaniments and results of cerebral disease is a fact which has been recognized in all ages in every country where there has been even a rudimentary development of anatomy. We find this clearly stated by the Hindoos and Egyptians, and still more plainly by the Greeks and Romans.

Although very interesting, such observations lose much of their value to us of the present day, for the reason that the knowledge of anatomy and physiology possessed by the writers was so imperfect that it is impossible for us, from their description, always to separate the amblyopia produced by local changes of the retina or choroid, or by paralysis of the ciliary muscle or partial opacity of the media of the eye, from that produced by disease of the brain centres or optic nerves.

Türck,* of Vienna, however, in 1853, awakened renewed interest in the subject, by describing retinal hemorrhages, which he attributed to increased pressure in the venous sinuses of the dura mater; and, in 1860, Graefe† wrote a paper, in which he not only called attention to the frequency of inflammation of the optic nerve in cases of cerebral disease, but described two varieties of it,—one accompanied by intense swelling of the intraocular end of the nerve, which he designated as stasis papillæ, and the other as neuritis descendens. He based these distinctions on four cases of choked disk, in two of which autopsies had been made respectively by Virchow and by Schweigger. In both of these there was sarcoma of the right hemisphere, with inflammation of both optic nerves, and the changes were mainly limited to their intraocular ends. He relates, also, other cases where there was marked inflammation of the optic nerves, with less swelling of the intraocular ends, and in which, although there was no autopsy, the symptoms pointed to meningitis, and in these he supposed there was probably a descending neuritis.

Five years later we find him,‡ in another paper, still further elucidating this theme and detailing another case of brain-tumor, in which there was a choked disk on one side only, and also three cases of inflammation of the nerves, in which the autopsies showed that the interstitial neuritis extended throughout the nerve.

The types thus recognized and described by Von Graefe are now universally recognized, although, as he himself pointed out, it is not possible, in all stages of the affection, to distinguish between them with the ophthalmoscope. The choked disk shades off into the more ordinary form of neuro-retinitis; this again into the stage of atrophy so gradually that in describing a case it is often difficult accurately to classify the appearances presented by the intraocular end of the nerve.

Since that date both the journals devoted to ophthalmology, as well as those of general medicine, teem with cases more or less accurately reported. It is, however, not my intention to give an analysis of them, but, after calling your attention to the statistics showing the frequency of their occurrence, to demonstrate to you on the screen, by means of the gas lantern, the various stages of neuro-retinitis, and the anatomical changes found in the tissues involved. As regards the frequency with which optic neuritis occurs in cases of brain-tumor, there has been considerable difference of opinion. Thus, as late as 1868, at the Heidelberg Congress, Becker gave it as his opinion "that brain-tumors frequently occur without any swelling of the disks," and Schweigger, in his Handbook, in 1871, says "that choked disks are absent in the majority of cases of brain-tumor."

More recent statistics, however, prove the contrary. I will only cite here those of Annuske§ and of Reich,‖ and will regard among these only those cases where there was an ophthalmoscopic examination during life; of such cases the former gives forty-three and the latter forty-five, making a total of eighty-eight cases. Of these, in

* Zeitschrift der Gesellschaft der Wiener Aerzte, 1853; *Ibid.*, 1852 and 1855.
† Archiv f. Ophthalmologie, vii. 2.
‡ Archiv f. Ophthalmologie, xii. 2.
§ Archiv f. Ophthalmologie, xix. 3.
‖ Klinische Monatsblätter f. Augenheilkunde, vol. xii.

eighty-two cases (*i.e.*, ninety-three per cent. of them) there was double optic neuritis. Basilar meningitis, especially the basilar meningitis of tuberculous children, is probably the next most frequent cause of optic neuritis. Thus, Heinzel* gives thirty-three cases of basilar meningitis in children, of which twenty-seven (eighty-one per cent.) showed either neuritis or consecutive atrophy. Allbutt† gives thirty-eight cases of basilar meningitis, out of which twenty-nine (or seventy-six per cent.) showed changes in the optic disks.

We thus see that double optic neuritis becomes a valuable symptom of brain-tumor and basilar meningitis. Such cases, of course, usually end fatally from the natural progress of the malady causing them; but I have seen occasional cases of basilar meningitis in children, where they had escaped with partial or complete atrophy of the optic nerve, and, in adults, cases of syphilitic gumma within the cranium, and of cerebro-spinal meningitis, where there was marked optic neuritis, and recovery with partial atrophy of the disks. I believe that the number of such cases in which double optic neuritis occurs is usually much under-estimated, simply because it is not carefully looked for, many thinking it not worth while to examine the eye-ground unless there is marked failure of vision. I have followed a case for months where there was marked choking of the disks, and in which vision remained good ($\frac{20}{xxx}$); and Mauthner‡ cites a case where the patient, to the day of his death, retained perfect central vision ($\frac{20}{xx}$). The ophthalmoscope should therefore be used in every case of suspected brain-tumor, whether there be failure of sight or not. [The lecturer here showed on the screen four cases of various grades of neuro-retinitis,—one a choked disk intensely swollen full of small tortuous blood-vessels, with a few small hemorrhages in its superficial layers; one showing the same affection in a less degree; and two of descending neuritis, from cases of meningitis.]

To explain the connection between the intracranial affection and that of the distal end of the optic nerves, physicians have had recourse to various theories. Three of these deserve our careful attention,—viz., I. the back-water theory; II. the vaso-motor theory; III. the lymph-space theory.

Von Graefe, who supported the first, supposed that increased intracranial pressure caused a back-water movement of the blood in the venous sinuses of the dura mater, which was transmitted thence by the ophthalmic to the central retinal veins, the lamina cribrosa acting as a multiplier, and increasing, by its constriction of the vessels, the œdema and congestion of the intraocular end of the nerve. The anatomical investigations of Sesemann§ have since shown that the anastomoses between the ophthalmic, orbital, and facial veins are so free that it is not at all probable that intracranial pressure can thus be transmitted through the veins to the eye-ground. Moreover, Michel‖ has recently shown (by autopsies of seven cases) that complete stoppage of the return blood by the vena centralis retinæ (by thrombosis) may occur, and, although giving rise to blindness and numerous hemorrhages in the retina, does not cause swelling of the intraocular end of the nerve.

II. *The Vaso-Motor Theory.*—Benedict¶ has attempted an ingenious explanation, to the effect that the engorgement and swelling of the disk are caused by a local palsy of the sympathetic; but it is scarcely possible that this palsy should be always limited to the few filaments supplying the intraocular end of the nerve, and that symptoms of paresis of the other branches—such as contraction of the pupil, partial ptosis, flushing of the face, which are notoriously absent in such cases—should not frequently occur.

III. *The Lymph-Space Theory.*—Since Schwalbe, and Axel Key, and Retzius have added so much to our knowledge of the lymph channels of the cerebro-spinal system, and it has been known that the lymph spaces between the dural and pial sheaths of the optic nerves communicate freely with the corresponding lymph spaces in the cranium, the attention of physicians has been directed to the possibility of increased quantities of intracranial fluids (lymph, blood, pus) being forced into the space between the nerve-sheaths, and thus causing a dropsy of the peripheral end of the nerve, obstruction to its blood-circulation, and alterations in its nutrition.

* Jahrbuch der Kinderheilkunde, vol. viii.
† Use of the Ophthalmoscope, 1871.
‡ Lehrbuch der Ophthalmoscopie, Wien, 1868
§ Reichert's Archiv f. Anat. u. Physiol., 1869.
‖ Archiv f. Ophthalmologie, xxiv. 2.
¶ Benedict, Electrotherapie, Wien, 1868.

According to this theory, owing to increased intracranial pressure, partial stasis occurs in the veins, with exudation of the watery parts of the blood into the sub-dural and sub-arachnoid cavities, and this fluid, seeking the point of least resistance, finds its way into the lymph space between the outer and inner sheaths of the optic nerves, and, by gradual pressure, causes a dilatation of the peripheral end of the dural sheath just before it passes into the sclerotic, compressing, at the same time, the pial sheath and the nerve-fibres covered by it. Moreover, experiments on animals show that increase of fluid in the sub-arachnoid space really acts in this way. Thus, Manz* has shown that two cubic centimetres of water, or water colored by Berlin blue, when injected into the sub-arachnoid cranial space of rabbits, causes a distention of the sub-vaginal space of the optic nerves, swelling of the optic disks, tortuosity and enlargement of the retinal veins, and, later, a diminution in the size of the arteries. Schmidt, in the calf, proved that such injections filled not only the sub-vaginal space, but also the lamina cribrosa, and distributed itself, to a limited extent, around the individual bundles of nerve-fibres.

In 1873 and 1874 I was much interested in this subject, and made several attempts to inject the sub-vaginal space of the optic nerves from the cranial cavity. The subjects on which I succeeded best were young children, in which I injected from the lower lateral corner of the anterior fontanelle. In several cases I not only succeeded in filling completely the sub-vaginal space, but also in partially filling the lamina cribrosa and the spaces around the smaller bundles of nerve-fibres. This injection of the spaces round the nerve-fibre bundles I found only at the peripheral end of the nerve. It appeared to enter the lymph-sheath of the central vessels, and follow this in its ramifications between the bundles of nerve-fibres (for the central retinal artery and vein give off many branches to that portion of the nerve through which they pass). This distribution of lymph would also account for the great swelling of the distal end of the nerve in cases of choked disk. My injections filled also the lymph spaces of the spinal cord and of the nerves given off by it, and in a few, with high pressure, it penetrated from the sub-dural to the perichoroidal space.

I will now project upon the screen careful drawings from a case of choked disks, which came under my notice in 1873,† where the autopsy showed a sarcomatous tumor of the cerebellum, abundant serous fluid in the sub-arachnoid space of the brain and spinal cord, pear-shaped dilatation of the outer sheath of the optic nerve just before it passes into the sclerotic, and markedly swollen disks, which were commencing to undergo atrophy.

These pictures, which show, first, the cerebellar tumor; second, the dilatation of the outer sheath of the nerve; third, sections of the nerve and sheaths; and, fourth, the minute pathological alterations in it (varicose hypertrophy of the individual nerve-fibres, etc.), will probably give you a better idea of the pathological changes than any verbal description. I have since seen several other cases of brain-tumor in the practice of my medical friends, where the autopsies showed a like state of affairs, but none in which they were more marked or characteristic. It is worthy of note that the size of the tumor seems to have very little to do with the production of choked disk, and very large brain-tumors may exist without it, while very small ones may produce it. So long as absorption of normal tissue keeps pace with the development of the new growth we have no choked disk, but when this is not the case the growth acts as an irritant and foreign body, and here we are apt to find choking of the disks. Similar morbid alterations to those above described have been found, both before and since, in many cases of brain-tumor, by other observers, and, while I am far from asserting that this is the only way in which choked disk can be produced by intracranial disease, I do maintain that it is the only method of its production which has been at present demonstrated on the dissecting-table.

Local changes in the sub-vaginal space of the optic nerves may cause, either by direct pressure or by the development of local dropsy, an optic neuritis. Thus, Michel‡ gives a case where obstruction of the optic foramen and closure of the sub-vaginal space at this point caused a disten-

* Archiv f. Ophthalmologie, xvi. 1.

† Transactions of the American Ophthalmological Society, 1874: Cases of Optic Neuritis, by W. F. Norris, M.D.

‡ Michel, Archiv der Heilkunde, 1873.

tion of the distal end of the nerve, by the proliferation of the delicate sub-vaginal tissue (arachnoid tissue); and the same author* has recently detailed a case caused by the development of tubercle in the distal end of the nerve. An enlargement of the sub-vaginal space at the distal end of the nerve is often caused by the shrinking of the nerve-tissue itself from atrophy, and might possibly, by a careless examiner, be mistaken for enlargement from pressure. [The lecturer here showed pictures of hemorrhage into the sub-vaginal space, of a myxo-fibroma causing a neuritis and dilatation of the sub-vaginal space, and also slides of the minute changes in atrophy and in peri- and interstitial neuritis.]

The doctrine above detailed is accepted by most ophthalmologists of the present day, Loring and Galezowski having been the most prominent opponents of it. The former† thought that observers were mistaken in speaking of the dilatation of the sub-vaginal space, and that the pear-shaped dilatation of the end of the nerve was caused by a splitting up of the layers of the dural sheath; and he doubted whether injections into the cranial cavity would really find their way between the sheaths and through the optic foramen. These, however, are mostly mere theoretical objections, and are substantially refuted by the above-detailed experiments and autopsies, and the single post-mortem examination which he adduces is not reported with sufficiently minute detail to prove the points claimed by him.

Galezowski,‡ in 1872, at the International Ophthalmic Congress, stated that in fifteen autopsies of brain-tumor he had seen only one case of fluid between the sheaths,—an experience which must be regarded as exceptional, in the light of the numerous autopsies made with the opposite results by other observers; and it would be far more satisfactory to those who hold an opposite view if he had stated at what stage of the neuro-retinitis they were examined, and whether the ends of the nerves had been tied before removal, to insure any fluid which was present remaining *in situ*.

Moreover, the occasional occurrence of one-sided neuro-retinitis in cases of brain-tumor remains yet to be satisfactorily explained. I may mention in this connection that, in my injections of the sub-arachnoid cranial space, I have usually succeeded in filling the sub-vaginal space of the nerve on the opposite side of the head more completely than that on the same side. Whether this was purely the result of accident I cannot positively say; I know of no anatomical arrangement satisfactorily to account for it.

With this I close, in hopes that I have sufficiently interested my fellow-members in the subject to induce them to use their best efforts, by clinical observation and careful autopsies, to elucidate still further this interesting subject, and to help fill out the many gaps which still remain in our knowledge of it.

* Michel, Deutsches Archiv f. Klinische Medicin, 1878.
† Amer. Jour. Med. Sci., 1875.
‡ Report of Fourth Internat. Ophthalm. Congress, 1873.

A CASE OF NON-PUERPERAL PELVIC CELLULITIS IN WHICH THE RESULTING ABSCESS, PERFORATING THE INTESTINE AND UTERUS, ESTABLISHED A UTERO-INTESTINAL FISTULA.

BY W. T. SKINNER, M.D., of Glasgow, Delaware, and CHARLES M. ELLIS, M.D., of Elkton, Maryland.

MRS. THOMPSON, the wife of a farmer, aged 65, and of previous good health, was attacked May 4, 1878, with acute pain, attended with great tenderness, in the right iliac and hypogastric regions. There was moderate fever, temperature 102°, and a pulse ranging from 90 to 112; well-marked tympanites rapidly supervened. The tongue was heavily coated, the bowels constipated, and vomiting was constant. Frequent and painful micturition added to her distressed condition, while the vagina was so tender she could not bear the touch. Under appropriate treatment the tympanites subsided, and a well-defined swelling, tender but without fluctuation, was distinctly felt above the brim of the pelvis, and extending to the median line.

On the 18th of May, pus and fæces were discharged per vaginam, to the relief of the throbbing pain in the pelvis. For a few days the discharge was only occasional, but shortly became continuous.

On the 22d, the tenderness of the vagina having in a measure subsided, the finger was introduced, and the right iliac fossa was found to be filled by a dense and painful tumor. The uterus was fixed and apparently displaced to the right. Per rectum, the mass descended so low as nearly to obliterate the canal, and the recto-vaginal septum was thickened by inflammatory products.

On the 26th, prolonged nausea and retching was followed by stercoraceous vomiting.

Her condition was now most pitiful and in the highest degree critical. The fæces poured continuously per vaginam.

On the 28th, after much difficulty, the speculum was cautiously introduced. The vagina was deeply infiltrated and swollen, bathed with pus, and embracing in its folds particles of fecal matter. The uterus, drawn from its central position, projected from the right wall, and the lips of the os, greatly swollen and everted, bled upon slight touch with the sound. No opening could anywhere be discovered in the walls of the vagina. The tenderness of the parts and the critical condition of the patient prevented a more careful examination until June 1. In the mean time, although the nausea had diminished, there was occasional vomiting of fæces, and the feculent and purulent discharge from the vagina was very profuse. On this day the exquisite sensibility of the vagina having in great measure disappeared, the examination of the uterus was very readily accomplished.

Pus still bathed the vagina, and fæces adhered to its walls. The os, more natural in appearance, no longer bled upon touch of the sound. Elevating the anterior lip, pus and fæces gushed from the cavity. For prudential reasons no attempt was made to trace the connections of the fistula. The swelling in the right iliac region had diminished, and small quantities of fecal matter now passed per anum after large warm-water injections.

June 6.—Until to-day her condition has been more comfortable, but this morning she had a return of stercoraceous vomiting. The discharge of pus and fæces per vaginam continues.

June 10.—The feculent discharge from the vagina has greatly diminished. Solid fæces were passed to-day in large quantities per rectum, and the general condition is very much improved.

July 15.—Externally the tumor can no longer be distinctly made out, and per rectum it is found much lessened and softer. The vagina is normal in appearance. The uterus is still fixed to the diminished mass on the right, the os red and patulous, with everted and swollen lips. The passage of a small silver probe was followed by the discharge of about half an ounce of pus. Feculent matter has for some time entirely disappeared from the vaginal discharge, and the patient's condition is otherwise much improved. She is now able to leave her bed. A short sponge tent was inserted into the cervix.

During the following night and the morning of the 16th, Mrs. Thompson suffered very much with pelvic pain, which was immediately relieved by the withdrawal of the tent, which was followed by a very copious flow of pus.

From this date her improvement, although slow, was progressive. For several weeks there was a daily discharge of a small quantity of pus, which eventually entirely ceased.

Utero-intestinal fistula is an extremely rare result of pelvic abscess. Simpson refers to one or two cases, Demarquay and Ashwell to one each,—all the result of post-partum causes. Pelvic cellulitis is usually an attendant upon the puerperal state; this patient had not menstruated for twenty years. She, however, makes an interesting statement, to the effect that she had an "abscess of the womb" after one of her confinements.

It was impossible in this case to make out any causation.

The intestinal opening is, we believe, in most cases into the small intestine, and thence into the rectum. The greenish color and fluid consistence of the discharges, as well as the absence of any marked fetor, clearly determine that this fistula did not open into the rectum.

We believe this to be a unique case of utero-intestinal fistula, the result of *non-puerperal* pelvic cellulitis.

THE USE OF HOT WATER FOR RESTRAINING HEMORRHAGE FOLLOWING THE EMPLOYMENT OF ESMARCH'S BANDAGE.

BY PAUL R. BROWN, M.D.,
Assistant-Surgeon U. S. Army.

HITHERTO one of the most serious objections to the use of Esmarch's tourniquet in surgical operations has been the obstinate capillary hemorrhage which almost invariably begins the instant the tourniquet is removed. Large quantities of blood are very frequently lost, sufficient in some cases to endanger the life of the patient or retard greatly his ultimate recovery. Considerable time is also lost in waiting for the oozing to stop before any dressings can be applied, and great difficulty is often experienced in checking the hemorrhage, so much so that the many advantages resulting from the use of Esmarch's tourniquet in surgical cases are in many instances counterbalanced by this great disadvantage. To check this hemorrhage Esmarch recommends "ice-water applications," the use of "the induced current," "compression of the main artery by means of the fingers," etc. The mere fact that so many different measures are recommended for the purpose of checking this parenchymatous hemorrhage is proof positive that none of them can be depended upon. The perusal of Dr.

Fordyce Barker's article on the treatment of uterine hemorrhage by hot-water injections, and the almost magical effect which attended their use in three severe cases of obstetric hemorrhage treated by myself, led me to believe that possibly hot water might check the capillary oozing following the application of Esmarch's tourniquet. In olden times, before the days of Ambrose Paré, boiling oil was poured upon wounds to restrain hemorrhage, and to-day, water almost boiling is used for the same purpose. I soon had an opportunity to test my hypothesis in a case of amputation of the forearm, in a patient upon whom, three months before, I had performed Lister's operation for the resection of the carpus, on account of necrosis of the bones. The disease having returned, an amputation became necessary. Moreover, this patient had a marked hemorrhagic diathesis. Esmarch's tourniquet was used in both operations. In the first operation there was an excessively troublesome parenchymatous hemorrhage, which lasted for nearly two hours. In the second operation, as soon as the tourniquet was removed a free capillary oozing commenced. I immediately syringed the parts with hot water, of a temperature of 160° F., and instantaneously checked the hemorrhage, which did not return. That the hot water did no injury to the parts and did not retard the ultimate cure is demonstrated by the fact that in twelve days from the time of operation the parts had completely united and a cicatrix had formed. I have since used hot water several times to restrain hemorrhage from wounds, and always successfully, except where good-sized arterial branches have been divided. The obstinate hemorrhagic oozing following the use of Esmarch's bandage probably results from a temporary paralysis of the vasomotor nerves, which is produced by the pressure of the tense rubber. The hot water acts as a powerful stimulant to these nerves, and they at once produce a contraction of the arterioles, thus stopping the hemorrhage. Water of a temperature less than 150° F. should never be used. Warm water is worse than useless. "One swallow does not make a summer," but nevertheless I think that this is a valuable surgical expedient, and will, if properly used, tend to popularize that most excellent surgical auxiliary, the Esmarch tourniquet.

FORT BENNETT, DAKOTA, June 15, 1879.

VICARIOUS (?) ENLARGEMENT OF THE PAROTID GLAND.

BY CHAS. P. KNAPP, M.D., Ph.B.,
Wyoming, Pa.

MISS M., æt. 20, consulted me in November, 1877. The following is the history of the case:

The patient was a blonde, chlorotic and nervous. She showed acne upon the face. She had been in poor health for some time, was weak, easily wearied, appetite poor, menses scanty, light-colored, and attended with pain in the right ovarian region, ceased in a day or two, and were followed by the appearance of a tumor on the right side of the face (parotid region), which increased in size, without causing pain or inconvenience, until the next monthly period, when, upon the ovaries taking on their function, the enlargement quickly subsided. This had occurred for several months previously.

Upon examination, thoracic viscera were found normal, and likewise abdominal and pelvic (so far as examination was allowed), save a slight tenderness in right ovarian region. The parotid gland was enlarged to a noticeable extent, but was painless. The ear and throat, upon examination, showed nothing wrong.

The patient was kept under observation for five months, during which time the parotid enlargement was found to subside and recur as above mentioned. She was placed upon tonic treatment, under which she improved in general health, the menses became more free and full, and after the monthly period of May, 1878, the parotid enlargement did not recur, and had not recurred up to January, 1879.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SESSION OF 1878–79.

SERVICE OF R. J. LEVIS, M.D.

Reported for the *Philadelphia Medical Times.*

A CASE OF CUT THROAT IN WHICH THE PHARYNX WAS ALMOST COMPLETELY DIVIDED.

THIS German, aged 45 years, attempted to commit suicide by cutting his throat, in which attempt he came very near being successful; he also wounded both wrists in his efforts to sever the radial arteries. From the direction of the wounds it is evident that he first felt for the pulse, and then attempted to cut the artery. The wound of the throat is above the larynx, and divides nearly the whole of the lower part of the pharyngeal wall. There remains undivided only a small strip of mucous membrane, about as wide as a finger,

at the posterior part. Neither the carotid nor facial arteries of either side have been cut, but both carotids have been laid bare. By looking into the gash across the throat one can study perfectly the action of the arytenoid cartilages, which are seen moving as the patient attempts to articulate. There was a great deal of hemorrhage before his admission to the hospital, and he is now quite bloodless; his pulse is feeble, but not dangerously so at the present time. In fact, he is in greater danger from the secondary effects of the wound than from the loss of blood that he has sustained.

It is remarkable how many attempts at suicide fail, because the patient throws the head back and cuts high up under the jaw. If he would cut just above the sternum, a wound of much less depth would reach the large arteries, and cause death from hemorrhage in a short time; but in the upper part of the cervical region the important vessels lie far back and more laterally. It is a popular idea that a person will die of suffocation if the trachea be cut open, whereas it really gives a much greater opening than normal for the passage of air.

The treatment of this exceedingly large wound of the throat will be tentative, as it seems impossible to do anything in the way of suturing the walls of the divided pharynx. He has already been fed with milk by the hydrostatic method, as we may call it. A tube is introduced into the œsophagus through the wound, and liquid food allowed to flow down from a reservoir held over his head. By this means nourishing diet, stimulants, and medicines can be introduced with great ease. Great care and watchfulness will be necessary to provide against the occurrence and results of secondary hemorrhage. At this time the head shall be kept low, and the extremities warm, to give him an opportunity to react from the hemorrhage and shock that he has sustained. When the case was admitted, transfusion was thought of, but it will not be required, for the circulation is not as feeble as might be imagined.

It is about six weeks since this man was shown to you before. The wound is now healing, but a large aperture still exists; through this he is still fed. His general condition is good. He is given by the hydrostatic method a mixture of beef-tea, milk, whisky, and quinine, which makes an odd combination, but, as it does not go through the mouth, the patient does not taste it. We do not attempt to feed him by the mouth, because the fluids would escape from the gullet and might enter the larynx. It is possible that the cicatricial contraction resulting from the closure of this extensive wound may cause a stricture of the upper part of the œsophagus; but this, it is said, does not as a rule happen in such cases.

INTERNAL HEMORRHOIDS REMOVED BY THE CLAMP METHOD.

The patient now presented has protruding from the anus a series of tumors of a florid color. These are internal piles, as is readily determined by their being covered with mucous membrane. Piles are made up of a mass of vessels, and might with great propriety be called a local vascular hypertrophy. Of all the methods of treating internal hemorrhoids, excision, with the aid of the clamp and cautery iron to prevent hemorrhage, is by far the most satisfactory. If they are ligated, the thread will act as a seton, and keep the patient in bed from ten to fourteen days, during which time there will be constant pain, and the urine for a day or two will have to be drawn off. After excision by the aid of Smith's clamp, the man can probably be out of bed the following day. It is not possible to cut off the tumors without cauterization, because the patient might bleed to death by internal hemorrhage, which would be concealed in the rectum. External piles can be incised or excised without this risk. When you are about to operate, the internal hemorrhoids may be within the bowel, but the patient can force them down by seating himself over a bucket of hot water and bearing down. They may also be drawn out by an instrument of wood, which has a shoulder cut upon it so that it looks and acts like a large bulbous bougie. The clamp which I shall use in operating upon this case is that devised by Mr. Smith, of London. This is screwed together, so that its blades constrict the tumor and prevent hemorrhage when the scissors cut off the mass. Then the actual cautery is applied to the stump, and the blades of the scissors-like clamp are opened. The patient is now etherized, and I apply the clamp to a portion of the hemorrhoidal mass in a line radiating from the anus, in order to avoid producing narrowing of this aperture. The blades are screwed shut, and the tumor is then cut off with a pair

of scissors; but care must be taken to leave a sufficient stump beyond the outer surface of the clamp to allow of thorough cauterization with the hot iron. After drying the stump with a towel, the red-hot iron is applied and the tissue seared. The clamp is now removed, and you see that not a drop of blood flows. The operation is thus performed upon three separate portions of the hemorrhoidal protrusions, making three linear eschars which radiate from the anal aperture. These cauterized stumps and the remaining tumors, which are small, shall be pushed back into the rectum. The after-treatment of the case is to be managed on general principles.

TRANSLATIONS.

NERVOUS DYSPEPSIA. — W. O. Leube states that many healthy persons experience peculiar nervous symptoms, as cerebral congestion, disinclination to work, weariness, fulness in the epigastrium, etc., immediately after eating.

These symptoms appear too soon after meal-time to attribute them to the absorption of certain products of digestion (*e.g.*, lactic acid), causing a self-poisoning of the nervous system. It is more likely that they depend upon direct irritation of the nerves of the stomach by mechanical irritation from the ingesta; it is known that in physiological experiments the general nervous system is sometimes affected by direct irritation of the gastric nerves. The symptoms above mentioned become pathological when they reach a certain point, which they usually do as a result of perceptible gastric troubles, as catarrh, ulcer, cancer, etc., but occasionally without any perceptible cause, in which case Leube calls the affection nervous dyspepsia. The condition is usually found in persons whose nervous system is easily excitable, in the upper classes, during the earlier years of puberty, and frequently accompanying other nervous troubles.

This affection is distinguished from catarrh in that the appetite and digestion are undisturbed; from cancer of the stomach by the age, and the absence of cachexia or tumor; from ulcer by the absence of pain and by the happy effect of electricity; finally, it is distinguished from enlargement of the stomach by physical examination (Leube's examination with the sound). The prognosis of nervous dyspepsia is not very favorable, and we must often be satisfied with relieving the condition without being able to cure it.

The treatment consists in easily digestible diet, ice, quinine, electricity, hydropathy. In one case ergotin acted favorably. As a subsequent regimen, sea-bathing or mountain air may be recommended.—*Cbl. für die Med. Wissen.*, 1879, No. 23; from *Deutches Archiv f. Klin. Med.*

THERMOMETRY OF THE VISCERA.—At a recent meeting of the Berlin Physiological Society, Dr. H. Kronecker showed a number of globular maximum thermometers, and also some new cylinder-shaped instruments intended for circulation in the blood-current of living animals. Dogs could be made to swallow the globular thermometers without any trouble, while the cylindrical thermometers could be placed in the jugular or femoral vein or in the carotid artery without producing any disturbance. Those placed in the veins generally found their way into the peripheral branches of the pulmonary artery; occasionally, however, they were found in the azygos, the renal vein, etc., or remained in the right auricle; in a few cases in the right ventricle. Those placed in the central end of the carotid and urged towards the aorta by injected blood were driven to the remote arterial branches. Clots were occasionally found in the cardiac cavities, from the presence of the thermometers, but not elsewhere. By means of these thermometers the amount of heat developed during digestion, some notion of the temperature in different portions of the circulation, and the locality of highest bodily heat were ascertained. The lowest blood-temperature of the inner portions of the body was found to be in the vena azygos (99.9° F.), the highest in the middle lobe of the right lung (105.9° F.) and in the empty intestinal canal (106° F.).—Reprint from *Archiv f. Physiologie.*

CHOREA CURED IN EIGHT DAYS BY THE USE OF SALICYLATE OF SODIUM. — Dr. Dresch had under his care a little girl, 10 years of age, of a scrofulous habit, who had suffered for eight days with choreic movements limited to the right side. She gave the history of hereditary tendency to neuroses, and had had an attack of rheumatism a week or so previously. Dr. Dresch prescribed salicylate of sodium in the dose of ʒiss per diem. At first the

medicine was vomited, but within a day or two it could be tolerated. At the end of six days the choreic movements had almost disappeared, and by the eighth day the patient was well, and continued so up to the date of the report. — *Bull. Gén. de Thérap.*, 1879, p. 506.

COLD ENEMATA IN FEVERS.—Lapin experimented in the case of some fifty patients, with or without fever, and in healthy persons, administering enemata of cold water and measuring the changes in axillary temperature. He found that enemata of 40° to 50° F. caused a fall of .5° to 1° F. in the axilla, from 1.6° to 2.6° F. in the hypogastrium, and from 2.2° to 9° F., together with a diminution in frequency in the pulse and breathing. The difference before and after the administration of the enema was first noticeable in the axilla, and remained for thirty or forty minutes. Healthy, and not feverish, individuals were first affected.—*Cbl. f. Chirurgie*, No. 29, 1879; from a Russian source.

ARTHRITIS OF THE KNEE CONSECUTIVE TO PHLEBITIS OF THE POPLITEAL VEIN.—Verneuil has already drawn attention to inflammation of the knee-joints as a severe complication of lymphangeitis of the lower extremities. His present communication is based upon three cases of serous or purulent knee-trouble as a complication of phlebitis of the popliteal vein, which takes up the veins from the joint and its neighborhood. Two of these cases occurred spontaneously in young, healthy men. — *Cbl. f. Chirurgie*, 1879, No. 28; from *Gaz. Méd. de Paris.*

A CASE OF SUFFOCATION FROM ASCARIDES IN THE AIR-PASSAGES.—A child of 5 years, suffering from constipation, vomited an ascaris; castor oil was administered, and also vomited without producing any effect. In the following night vomiting suddenly occurred again, and the child raised himself up in bed and fell back, dead. Previous dyspnœa was not observed. The autopsy showed an ascaris doubled twice upon itself, jammed in the larynx and trachea. The worm was eight inches in length, and was looped with other worms at its lower end. Other ascarides were found in the œsophagus.—P. Donati, in *Cbl. f. Chirurgie*, No. 28, 1879; from an Italian source.

THE PHYSIOLOGICAL EFFECTS OF GELSEMINUM.—In 1870, Prof. Wormley, of the University of Pennsylvania, extracted an acid from the rhizome of the yellow jessamine which he called gelseminic acid. Later Tredike isolated an alkaloid gelseminum. Recently MM. Putzeys and Romiée have experimented upon this alkaloid, with the following results: gelseminum paralyzes the terminal cardiac filaments of the vagus in both the dog and frog. Galvanization of the cut end of the vagus fails to stop the heart's action, or even to slow it. It even seems to augment the number of pulsations. MM. Putzeys and Romiée are disposed to regard atropia and gelseminum as somewhat similar in effect. Gelseminum produces a reduction in surface-temperature, due to spasm of the arterioles, and which is observed in the leg even when the sciatic has been removed. Examination of the retina shows the papilla blanched. A period of heat follows this lowering of the temperature, and then again a rise of temperature, after which the animal recovers or dies according to the dose employed. Gelseminum dilates the pupil, but less markedly than atropia. The nervous phenomena produced are obscure. Sometimes a slight degree of tetanus is observed, an exaggeration of reflex sensibility; sometimes there is tremor; sometimes paralysis, preceded or not by convulsions. The authors are disposed to attribute this action of gelseminum on the nervous centres to cerebro-spinal anæmia rather than to the direct action on the nervous cells. —*Brochure*, Brussels, 1878; abst. in *Le Progrès Méd.*, 1879, p. 471.

TREATMENT OF CARBUNCLE OF THE UPPER LIP.—Lindermann, in a case of malignant carbuncle which went deeper and deeper in spite of extensive incisions, made deep punctures with a tenotome, which were followed by hourly hypodermic injections of a two per cent. solution of carbolic acid, a syringe-full at a time, all around the border of the disease. After two or three days of this treatment the œdema, induration, and swelling had diminished, and the frequency of the injections was lessened. The result was favorable.—*Arch. f. Klin. Chir.*; from *Cbl. f. Chir.*, No. 24, 1879.

DR. RICHARDSON'S STYPTIC COLLOID (*Hospital Gazette*).—

℞ Acidi tannici, ʒii;
Alcoholis absoluti, fʒss;
Ætheris, fʒiiss;
Collodion, q. s. ad fʒxij.—M.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 30, 1879.

EDITORIAL.

THE NATIONAL BOARD OF HEALTH.

ON the 3d of March last Congress created a National Board of Health, and defined its duties to be to collect information on matters relating to the public health, and to give advice to the various departments of the national government and to State authorities upon sanitary subjects. The Board, in conjunction with the American Academy of Sciences, was also directed to prepare a plan for a permanent national health organization,—that is, to give an opinion as to what its own powers and duties should be.

The pressure of public opinion in the Southwest for quarantine was, however, too strong to permit of waiting for a report from the Board on this subject, and on the 2d of June another act was passed, establishing a so-called National Quarantine, under the direction of the National Board of Health, and appropriating five hundred thousand dollars for the purpose of carrying out its objects. It is popularly supposed that this act gives the National Board of Health great powers (even to emptying or burning an infected city, if necessary), and, as great power brings great responsibility, the Board has been sharply criticised on account of the present outbreak of yellow fever and its supposed failure to suppress it. The truth is, however, that so far from establishing a national quarantine, the act establishes the supremacy of State and local quarantines. The National Board is directed to aid and co-operate in enforcing the rules of State and local boards, which, being interpreted, means that it is to pay the bills. It can make no rules and regulations of its own, with regard to inland quarantine, unless indeed a State should refuse to enforce one, in which case it may report the facts to the President, when he may order it to prepare rules, etc., etc., all of which would take several weeks or months.

Prompt and efficient action on the part of the national authorities is, in fact, almost impossible under the act. The State or Local Board must take the initiative, and ask for aid if it needs it; then the National Board is to make an estimate of cost for the decision of the Secretary of the Treasury as to whether the funds shall be furnished; and so delay must follow delay. In the present emergency this is, perhaps, less to be regretted, since inland quarantine, unless of the shot-gun order, producing absolute non-intercourse, has very rarely proved effectual in arresting the progress of cholera, plague, or yellow fever. The difficulties in establishing an effectual quarantine are so great that all practical sanitarians prefer to direct their efforts mainly to the securing of municipal cleanliness and pure air and water, in order to prevent the spread of contagious disease. The National Board seems fully aware of this, if we may judge from the instructions issued to its inspectors, but the law under which it acts relates exclusively to quarantine, and it can only obtain information as to the sanitary condition of the country as a secondary and incidental feature of the inspections of its agents.

Notwithstanding this limitation of the powers of the Board and its necessarily hampered action, it has begun its work, and is pursuing it with all possible diligence, having already prepared and issued a circular of advice as to what rules and regulations should be adopted by State and local boards with respect to quarantine. These rules may be considered as establishing the minimum amount of precaution to be taken against yellow fever in Northern ports, and are based upon

those in force at the port of New York, under the direction of Dr. S. O. Vanderpoel, who has been consulted by the Board in this matter from the beginning of its organization. We have also received six numbers of the weekly bulletin which the Board issues in accordance with law, each of them containing original matter of great interest to sanitarians.

It is too soon yet to judge of the merits of the National Public Health Acts, or of the operations of the Board, but it seems to be attending to its work in a quiet, common-sense sort of way, without any special flourish of trumpets, which is of good omen; and we sincerely hope that the experience of this summer will enable it to present a plan for a permanent National Health organization which will meet with general approval and consent; but the functions of such an organization must relate to public hygiene in the broad sense of the term, and not be limited to quarantine or to paying for quarantine, if it is to be of real value.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, May 14, 1879, Dr. John H. Packard, Vice-President of the Society, occupying the chair.

Dr. Carl Seiler made some remarks on new methods of microscopic investigations. He remarked that it is of the greatest advantage, in examining tissues with the microscope, to have as large a section as possible, and especially is this the case in pathological histology. He cited a case in which a tumor had been examined by one observer and pronounced to be a fibroma, while another observer had found it to be an epithelioma. This discrepancy was caused by the two observers examining sections made from different parts of the growth, which proved to be an epithelioma when a section of the entire tumor was examined. The doctor illustrated this part of his remarks by exhibiting an instrument devised by himself, for cutting large and thin sections of tissues, and which was known as Seiler's mechanical microtome. He then went on to explain the methods of hardening tissues preparatory to cutting sections, and gave alcohol the preference over all other hardening agents, if it is used in a weak solution at first, and is gradually increased in strength until the tissue is thoroughly hardened.

He next alluded to the different methods of staining the sections so as to differentiate the histological elements, describing the method employed by him for staining with lilac fluid and fixing, subsequently finishing the hardening by strong alcohol. When strong solutions of chromic acid were used, the outer portions of the piece of tissue were quickly hardened, preventing a further penetration of the liquid into the tissue, and in consequence the interior remained soft and in time decayed, making it thus unfit for microscopic examination.

Dr. Charles K. Mills inquired whether the use of alcohol for hardening specimens, and of acids for other purposes mentioned, might not in some cases so change the specimens histologically as to interfere with their proper examination.

He was of the opinion that large sections are of great advantage, more particularly in studying certain diseases of the spinal cord or brain. In spinal sclerosis we can, by Dr. Seiler's method, readily obtain sections and study the progress and appearance of diseased processes in the different columns of the cord. By this method also large sections can be made of special regions, as the floor of the fourth ventricle, for instance, which is sometimes desirable. Large sections can also be used in determining the physiology and pathology of certain regions of the brain, thus contributing to our knowledge of the localization of functions in the cerebral cortex; for example, the relations to each other of, and the arrangement of elements in, the five or six layers which are known to constitute the gray cortical matter, can be readily investigated. It is well known that large sections both of spinal and cerebral tissue have frequently been made in the old way by skilful operators; but Dr. Seiler here presents us with a time-saving method universally available.

Dr. Nancrede wished to testify to the extreme value of the method which Dr. Seiler has introduced. The case referred to by the lecturer in connection with a section which he exhibited was a most instructive one. A patient had an epithelioma of the lip, which was removed by Dr. Mears. Two years later the patient applied for admission into the Episcopal Hospital, with a tumor under the lower jaw, which the speaker removed, together with part of the bone. The specimen was examined by a committee, who pronounced the tumor a fibroid, and in the specimen they exhibited to the speaker the structure was made up decidedly of fibrous tissue. He came to the conclusion that it was one of the rare

cases of fibroid cancer, only two of which are on record, these both having been reported by Paget. In an examination of the tertiary growth, finding evidences of epithelioma, it appeared as if it might be a still rarer instance of fibroid cancer, being interchangeable with epithelioma, and that the terms fibroid cancer and epithelioma are synonymous. If a section such as shown by Dr. Seiler, of the entire growth, had been examined, it would have been all clear, where the epithelioma is very evident at one extremity but at the other is seen normal fibrous tissue.

Had this subsequent examination not been made, this case would have been regarded and subsequently quoted as a very unusual and peculiar case, whereas it was only a typical epithelial growth of secondary development. Suspecting that there was some mistake, Dr. Nancrede took the original imbedded portions from which the sections had been removed by the committee, and, levelling the surface of one, to his astonishment found in all his sections true epithelioma, thus showing that the first sections were not through the morbid tissues.

Dr. Seiler, in reply to Dr. Mills, said that alcohol, if used in the manner described, like all other hardening agents, such as chromic acid, picric acid, arsenic acid, etc., acts by dehydrating the tissue and by coagulating the albumen, thus producing no chemical change in that tissue. A shrinking, however, takes place, and especially if the alcohol be used too strong at first; but this is so slight, if the alcohol is gradually increased in strength, that no material difference can be detected in sections made from tissues hardened in this way from those made by the freezing microtome from the fresh tissue. The mineral acid used in removing the excess of color in the stained section, although a rather strong solution, has no other effect upon the tissue itself than to coagulate the albumen still further; and sections examined before the use of the acid, as compared to those after the application of the acid, also show no difference, even under high powers. In regard to brain-tissue, he said that the chromic acid, in the hardening agent known as Müller's fluid, was preferable to alcohol to a certain degree, and that he was in the habit of hardening brain, when large sections were to be made, by immersing the piece of brain in Müller's fluid for a few days, the coloring to be done with dilute hydrochloric acid.

Dr. Seiler next described his new method of double staining. He said that by the carmine only the nuclei of the cells were retained, while all the other histological elements remained colorless; but that these latter could be colored in different tints by a very dilute alcoholic solution of sulph-indigotate of sodium, which had the great advantage of giving a peculiar tint of either green or blue to certain tissues, which was so constant that these tissues could, by their color alone, always be recognized. This double staining, therefore, formed a very important aid in diagnosis, in illustration of which the doctor cited another case of a tumor whose true nature was clearly made out only by the aid of double staining.

During the course of his remarks he passed around, for inspection among the members, very large sections, both single- and double-stained, of various tissues, among others a section of the entire adult human larynx through the vocal cords, measuring one inch by one inch and a half; a longitudinal section of the leg and foot of a five months' fœtus, measuring one inch and one-third by three-quarters of an inch, and of extreme thinness and evenness, which were made by his new section-cutter.

THE NASAL DOUCHE.

Dr. Carl Seiler then made some remarks on the use of the nasal douche. He said that many practitioners had given up the use of the douche in the treatment of diseases of the nasal cavity, because they had found inflammations of the Eustachian tube and middle ear, as well as other unpleasant results, to follow the use of this instrument. Dr. Elsberg, of New York, and Dr. J. Solis Cohen, of this city, as well as himself, had but rarely met with a case in which any unpleasant results could be attributed to the use of the nasal douche, although these gentlemen employed this instrument constantly in their practice. He thought that the trouble was to be looked for in a want of attention to certain rules in the use of the nasal douche, which, unfortunately, were not generally known or appreciated by the profession.

These rules were, 1st, that the liquid used should be of the temperature of the body; 2d, that it should be of the same specific gravity as the serum of the blood, to prevent osmosis between it and the blood; a liquid of such density could easily be obtained by dissolving fifty-six grains of common table-salt in a pint of water; and, 3d, that the bottom of the vessel should not be elevated above the forehead of the patient using it, as otherwise the pressure is too great, and forces the liquid into the frontal sinuses. If used in this way, he felt sure that no evil consequences would be observed following the use of the instrument.

He exhibited several forms of nasal douche, and pointed out their merits and demerits, giving preference to a plain tin cup with a tube attached to the bottom, which is effective and, at the same time, so cheap as to be within reach of even the poorest classes. A capsule was also exhibited which was made of gelatin, and held the proper quantity of salt to be used, so as to overcome the difficulty and inconvenience to the patient of weighing or

measuring the salt every time the douche is to be used.

He, in conclusion, said that he was making experiments with other substances, astringent as well as disinfectant, besides the salt in the nasal douche, but had as yet not come to any definite conclusion in regard to the advisability of using such reagents.

Dr. S. D. Risley said that he had paid no attention to the density of liquids applied to the mucous membranes. It was a new idea to him, and one for which he desired to thank Dr. Seiler. He was disposed to try it in the future, since there was much to be desired in our treatment of mucous surfaces, and this device may prove a valuable addition to our therapeutics. In directing various applications to the mucous membranes, he had done so from other theoretical considerations than osmosis. He had long since given up the nasal douche, believing it did far more harm than good. The osmosis of liquids, as presented by the lecturer, had not occurred to him as a cause for the bad results following its use. Nor had he ceased to use it from any fear that harm would come to the ears from its use. He had never seen any evil resulting to the middle ear from the liquids flowing into the tympanum through the Eustachian tube, and believed that the danger must be very much overstated. The only time he had ever witnessed this accident or knew of its occurrence was while using the posterior nasal syringe in his own hands. The patient was a young man, with enormously hypertrophied tonsils, under treatment for catarrhal deafness. A drop of the solution fell from the syringe into the larynx, causing a sudden and explosive cough. The syringe was emptied at the same instant, a part of its contents passing into the right tympanum, causing great pain and an extensive rupture of the membrane of the tympanum, which, however, healed rapidly and did no permanent harm.

While the abnormal situation of the orifice of the Eustachian tube might facilitate the entrance of fluids, as pointed out by Dr. Cohen, he thought the real necessity for the precaution not to swallow while using the nasal douche had not been mentioned. In the act of swallowing, the orifices of the tubes are opened, and thus the entrance of air or liquid is facilitated. The otologist is constantly taking advantage of this fact in treating disease of the middle ear. The nasal douche did harm very frequently, because in a very large number of cases relatively of naso-pharyngeal catarrh the disease was not general until made so by the application of medicated liquids to healthy mucous membrane. He was convinced that in a very large number of cases the disease was a local one, originally set up, it might be, by a foreign body lodged in the nasal passages, or by some anatomical peculiarity bringing parts into contact which are normally separated, producing localized ulceration in the mucous membrane. In such cases the douche could be of no service further than to cleanse the nose and pharynx occasionally, the ulcer meantime being treated by topical applications. Medicated solutions applied by means of the douche must necessarily affect the healthy mucous membrane, sooner or later bringing on the chronic granular inflammation and profuse muco-purulent discharge met with in these cases of naso-pharyngeal disease. It remains to be seen whether the expedient suggested by Dr. Seiler will relieve the douche of the distrust which many feel regarding its value as a therapeutic measure.

Dr. J. Solis Cohen said that in his experience difficulty following the use of the nasal douche is generally due to the fact that the water has been used too cold. There is one point in this connection that is not well understood. The locality of the opening of the Eustachian tube varies in different persons, and the opening is of different shapes, being sometimes narrow and sometimes trumpet-shaped. In most of the cases where there is trouble produced by the use of the douche, this opening is very patent and is situated unusually low down.

Patients should be instructed not to swallow while using the douche, as the liquid may be forced into the open Eustachian tube and into the middle ear.

The speaker does not use the douche to carry medicaments into the nasal passages and pharynx, but simply for the purposes of cleansing. The ordinary ball-and-tube syringe makes a good douche by starting the fluid with the bulb and elevating the basin above the head, when the water will continue to flow. It is a very good precaution, also, to observe, to have the water boiled that is to be used in the douche or as a gargle, which will precipitate and remove many of the impurities of the ordinary river-water.

Dr. C. Seiler agreed with Dr. Cohen, that the douche should, as a rule, be used only for cleansing. He had been experimenting, however, with some cases, and was not prepared to assert that there might not be some exceptions. Some cases have done very well under astringent injections.

In regard to Dr. Risley's remarks, he would say that he was aware that an ulcerated condition of the mucous membrane often exists requiring examination and topical applications. The douche is not curative in itself, but must be accompanied by local measures. In some cases, where there has been dryness of the mucous membrane without any special lesion, injections of the density and temperature of the blood, containing gr. x. nitrate of silver solution, had been of great service. He did not believe that a medicated solution of this character could be injurious to healthy mucous membrane, although it would stimulate the diseased surfaces.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 24, 1879.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Optic neuritis as a symptom of intracranial disease.

DR. WILLIAM F. NORRIS read a paper on "Optic Neuritis as a Symptom of Intracranial Disease" (see page 565).

Dr. RISLEY said he felt not a little hesitancy in opening the discussion on this subject, important as it is both to the general practitioner and the ophthalmologist. He felt all the more hesitation since in the present state of our knowledge there was nothing to add to the lucid demonstration given by the lecturer, for which he desired to tender his personal thanks.

There were, however, many things regarding choked disk and optic neuritis in their relation to intracranial disease that to his mind were very obscure. In the first place, why choked disk should be more frequently associated—as is claimed by some observers—with tumors of the cerebellum than with new growths located elsewhere in the cranial cavity. Again, if it were true, as stated by the lecturer, that the amount of irritation seemed of more importance in the production of choked disk than the size of the tumor, why do we not with relative frequency find it associated with those forms of intracranial disease, as tubercular and other forms of meningitis, which cause the rapid pouring out of fluid into the ventricles and subarachnoid space? If, on the other hand, the increase of the cranial contents by the mass of the tumor or by the fluid in the ventricles and elsewhere were the essential factor in choked disk, why did it not occur with relative frequency in hydrocephalus, and in forms of meningeal inflammation in which the thickening of the tissues gave greater increase of bulk than would occur in moderately large tumors?

Dr. DA COSTA said that he had listened with the deepest interest to Dr. Norris's comprehensive statements, and it was more in the desire of calling attention to some clinical points than in the hope of adding anything to what had been said that he addressed the Society. First, with reference to the view that diseases of the cerebellum invariably caused choking of the disk, he knew from cases that had come under his own observation that this was far from an invariable rule. In one instance in which the symptoms of cerebellar tumor were well defined, and a considerable tumor found at the autopsy, not the least evidence of disease was found in the eye-ground, and the examination was made by the lecturer of the evening. In another case a similar negative result was obtained. There are, then, undoubtedly tumors of the cerebellum, as well as of the cerebrum, in which the growth does not occasion choking of the disk, and the question had presented itself to him, whether this happened in tumors of quite special regions of the brain. Should this be the case if the symptoms are present, we might be led to conclude on the exact locality of the growth from the absence of signs in the eye-ground, or at least this could be used as strong corroborative evidence.

On the whole, his experience had been very favorable to the use of the ophthalmoscope in the detection of organic brain lesions, especially of tumors, and he thought that no diagnosis should be made without it. Allowing for the exceptional instances referred to, choked disk is so common that we may lay the greatest stress on its not being found; and thus the negative evidence becomes immensely valuable in a great group of puzzling brain disorders of suspected organic origin yet without marked structural change.

Dr. MILLS said that he had had the opportunity recently of making three post-mortem examinations in cases of cerebral tumor. Two of these tumors were situated in the anterior portion of the brain,—one in the frontal lobe and one in front of the optic chiasm; the third was a case of tumor of the pons Varolii. The tumor of the frontal lobe caused the most marked choking of the disks of both eyes that he had ever seen in any case; but, strange to say, the tumor located in front of the optic chiasm did not produce choked disk. Partial atrophy of the optic nerve of one eye was present, and the other eye could not be examined because of an opacity of the cornea. The tumor of the pons was unattended by choked disk.

In regard to cerebellar tumors, he agreed with Professor Da Costa. They certainly did not always cause choked disk; and he believed that they were most likely to bring about this condition when they were so situated as to cause bilateral pressure upon the venous channels. He had held an autopsy in one marked case of meningitis which showed no ophthalmoscopic changes during life.

The absence of ophthalmoscopic appearances of definite character in some cases of supposed disease of the cerebral convolutions is quite remarkable. He had been recently called by Dr. O'Hara to see a case in consultation, in which the patient was nearly blind in both eyes, and the other special senses and common sensation were all seriously affected. The case was supposed to be one of tumor or other lesion of the temporo-sphenoidal lobe, but ophthalmoscopic examinations made by Dr. George C. Harlan revealed healthy eye-grounds.

Dr. HARLAN said he knew of nothing to invalidate the opinion expressed positively by Hughlings-Jackson several years ago, that the condition of the disks does not afford the

slightest reliable indication as to localization of the cerebral lesion, and that optic neuritis occurs from tumors in many parts, probably in any part, of the encephalon. As to the manner of causation of choked disk, none of the theories proposed seemed to him entirely satisfactory; certainly no one met all the cases that have been reported. He agreed with the lecturer, that the most nearly satisfactory was that which pointed to the subvaginal space as the channel by which the morbid action was communicated; but, unfortunately for its general acceptance, there were cases of choked disk, recorded by high authorities, in which the nerve between the ball and the brain was found perfectly normal. Perhaps it was a mistake to confine ourselves to one and the same cause for all cases. He thought that the variety of opinions held by careful and honest observers and profound thinkers of itself proved, either that we have missed the true cause altogether, or that the result may be produced by several causes.

As to the nature of the affection, he believed that the problem of descending neuritis was comparatively a simple one, as the inflammation had been traced anatomically from the brain to the eye; but that in typical choked disk we had a condition that was *sui generis*, quite distinct from any affection of the eye other than that resulting from cerebral causes. It differed objectively in the greater extent of the swelling of the disk and less involvement of the retina, and subjectively in less diminution of vision, which in some cases even remained perfect. Perhaps the nearest approach to the condition of the papilla in choked disk was found in albuminuric neuro-retinitis; but the vision was always seriously impaired in the latter. He thought it of interest, in this connection, that several cases of intracranial tumor had recently been reported in which the appearance of the eye-ground closely simulated that of albuminuric neuro-retinitis. He had himself seen one case in which the ophthalmoscopic picture of albuminuric neuro-retinitis was almost complete, but in which the very slight degree of diminution of vision led him to suspect an intracranial cause. The urine was found to be perfectly normal, but general symptoms were developed which pointed very decidedly to cerebral tumor.

Dr. LITTLE said he thought the following cases would be of interest as bearing upon the subject:

In October, 1878, a young man, while gunning with a friend, was accidentally shot by him in the face, scalp, and right eye. They were both standing on a stone wall, thirty yards apart, guns loaded with No. 5 shot; a partridge flew between them, and his friend fired, the shot taking effect as above stated. He suffered only a stinging sensation and loss of sight, and had to be helped down from his position; he was treated by a physician, and in January, 1879, came under Dr. Little's observation.

One shot had gone through lobe of right ear; two shot were still present on right side of scalp; one about the median line in front; two more on left region of scalp. One shot had passed through right upper lid, through sclera of right eye, one-quarter of an inch from corneal junction, at upper and outer quadrant of right eye, on through choroid, retina, into vitreous, etc.; another shot was found at inner angle of left eyelid, but no shot in left eye.

Tension of right eye, —3; left eye, normal.

Perception of light in right eye, at the inner and upper part of eye. No perception of light in left eye.

Patient stated he was sure he had seen with both eyes before the accident; being ambidextrous, he could shoot to advantage aiming with either eye; had tested sight in other ways as well; saw none after the accident. Ophthalmoscopic examination revealed in right eye detachment of retina, general; sub-retinal effusion; loss of choroid at entrance of shot, scleral surface showing the sclera was depressed at seat of wound; got a reddish reflex only from inner and upper part of eye; seen best with a +6 (focal); opacity existing at inner and lower portion of eye; could see no shot in right eye, on account of the general disorganization on the exit of it. No iritis; no synechia; slight peripheral change in lens. Said at first there was a reddish tinge to what light perception he had, which, as blood became absorbed, changed to a bluish tinge. Electric current produced about natural symptoms. The left eye presented a true picture of atrophy; vessels small and tortuous; eye emmetropic. The nerve appeared as if it had undergone the change we expect to find after choked disk; no other condition present. Total loss of function; no response from electric current.

How to account for loss of sight in this eye became interesting and difficult. How to account for the choked disk that had evidently existed is of importance. The patient had exhibited no meningeal symptom; vision was immediately lost, and, not having had atrophy in the nerve prior to the accident, it appears evident that the shot which passed through the right eye must have passed through it and through the orbital wall of the right eye, on into the left orbit, and either cut the left optic nerve or been imbedded in or about it, or else one must have entered the left orbit and done the damage,—yet no scar could be found to make this clear. Sight was lost, then, by cutting of the nerve, and subsequently inflammation produced changes in intraocular end of nerve. It was not the result of meningitis.

Another case came to his mind that might be instructive, where there was total loss of function of one optic nerve and no sign of

choked disk, and where he had every reason to believe a tumor, syphilitic in character, existed in the cranial cavity. He saw the patient for the first time yesterday, who gave the following history:

"Three weeks ago I observed I saw double, and that my upper lid drooped slightly; also my vision was a little indistinct in the right eye (the affected one). I also felt inclined to brush away from face on the right side what I supposed to be a hair rubbing my face,—in fact, the whole right side of face felt different from the left, and my hearing in right ear was not so acute as on left side. Gradually vision failed in right eye, when I consulted a physician, who referred me to an oculist."

On examination, Dr. Little found that thirteen years previously he had had the initial lesion of syphilis, which he had treated and healed himself. One month prior to his seeing double he suffered from a very severe neuralgia of right side of face and head; then the symptoms as above occurred. April 23, found slight ptosis of right upper lid; divergent squint of right eye; hyperæsthesia of infraorbital nerve of right side; hearing of right ear (watch at four and a half inches); no cerumen in meatus.

Tension normal in right eye.

Perception of light faint in upper portion of retina, and towards inner and upper portion very faint.

Electric current produced no sensation of light.

Left eye normal, but ametropic; myopic astigmatism. Ophthalmoscope reveals only marked venous pulsation; edges of nerve slightly foggy (—24 focal clearest). No retinitis; no swelling of disk; no cupping.

This case presents total loss of function of nerve without choked disk, and yet showing an undoubted clinical history of a cerebral tumor.

These cases are interesting from their negative condition: in the one a choked disk occurring, with subsequent atrophy and no meningeal symptoms; the other, loss of function of the nerve, due to intracranial conditions, and no choked disk showing as yet. We do not know all about this subject yet; cases are seen generally so late. This last case will be interesting to follow, and the former one only an autopsy can decide.

The lecturer of the evening has given a clear and unbiased narration of the history of the subject, and made a beautiful exhibition of the anatomical conditions. Pathologically we must give preference to the theory he upholds,—that the sub-arachnoidal space is the source of communication between the brain and the intraocular end of the optic nerve.

Dr. LONGSTRETH said that in 1876 he had occasion to make a collection of cases of tumors of the brain. The period included in his collection covered the years from 1865 to 1875, and embraced all the cases to be found in medical literature of all languages during these years, as well as a few unpublished cases from Norway, obtained through the kindness of the commissioner to the Centennial Exhibition from that country. It was intended to embrace in this a period, on the one hand, commencing with the use of the ophthalmoscope in the study of this disease, and, on the other hand, ending with the time when attention began to be directed to the localization of brain-function. Furthermore, it was intended to be a continuation of the work which Ladame had accomplished on this subject for the time antecedent to the year 1865. By those familiar with the subject, it will be seen that the first cases of prominence published during this period were those of Von Graefe, giving the results of his work on the connection between disease within the cranium and changes at the intraocular end of the optic nerve. The number of cases to which reference has been made, and whose clinical features were collected, gave a total of a few more than six hundred; none were here included in the list, nor was any reference made to such cases where the diagnosis had not been confirmed by an autopsy. During the year, or a little more time, while engaged in the work, Dr. Longstreth examined post mortem the bodies of six persons in which tumors of the brain were found. In all of his own cases, symptoms or changes in the optic nerve and retina were present during life, except in one case of multiple large tubercles, in which no ophthalmoscopic examination was made and no symptoms were manifested connected with the brain or with vision. It is possible that the symptoms in this case were masked and overlooked in the presence of the extreme exhaustion due to the chronic tubercular disease of the lung, from which the patient died. The case, however, formed no exception to the rule which held in the other cases, because an examination of the optic nerves, post mortem, showed marked alterations.

Of all this large number of cases the records of which had been examined, a very considerable number gave no account of the vision or of the results of an ophthalmoscopic examination; a still larger number furnished no account of the condition of the optic nerve and retina. Of the remainder, by far the larger portion, in which the record speaks of the condition of vision and its apparatus, very few indeed failed to show a deficiency in sight, or, by the ophthalmoscope, well-marked changes of the optic nerve and retina in one or other of the various stages and conditions resulting from intracranial pressure or from inflammatory changes of the brain and its membranes.

Dr. Longstreth was not able to state at the moment how small was the proportion of the cases in which an ophthalmoscopic examination had been made in which no

changes were found in these organs when the post-mortem examination proved the existence of a brain-tumor or other disease capable of causing increased intracranial pressure. M. Reich (Russian), in the *Monatsbl. f. Augenheilk.*, 1874, states that, from an analysis of a moderately large number of cases, nearly all brain-tumors, in which a careful ophthalmic examination was made, the proportion was ninety-five in one hundred where optic changes were found. In Dr. Longstreth's very much larger collection, which included M. Reich's analyzed cases, the proportion was certainly not less than the figures mentioned.

It was to be noted that a few observers record the occurrence of appearances in the retina similar to the changes resulting in albuminic retinitis, although the reports show that no Bright's disease was indicated by the condition of the urine.

In regard to the changes in the outer sheath of the optic nerve, Dr. Longstreth had seen the ampullar dilatation well marked in some of the cases which he had examined post mortem, and in the records of his collected cases the condition was frequently noted. Dr. Longstreth had not found it necessary to ligature the optic nerve, previous to removal, to preserve the distended condition of the nerve-sheath. In none of his own cases had the distention been extreme, but in all of them, where the eyes had been examined, the condition was easily seen and well marked in the microscopic specimens.

The position of tumors, in reference to their capability of producing eye changes, did not, from a general survey of the collected cases, seem to be a point of much importance, and, apparently, no general law could be deduced concerning it. Tumors, in whatever position, seem equally capable of producing eye changes. It may be mentioned that small tumors, and, more rarely, also large growths, have occasioned optic-nerve and retinal changes visible in one eye only. Perhaps a condition of more importance is the effect resulting from tumors situated below the tentorium or in close relation to its straight sinus. It is unquestioned that the pressure brought to bear on this important pathway of the returning blood from the lateral ventricles, or on the venæ Galeni, does cause a set of symptoms which become valuable as indicating a tumor seated in close connection with this membranous partition within the cranium. The prevention of the return of blood from the veins of the ventricle and the choroid plexus results in the accumulation of fluid within these cavities, and in this condition of a distended ventricle we have a cause, acting in addition to the intracranial pressure due to the tumor itself, which tends to produce stasis of blood or other changes in the optic nerve and retina.

Another consideration of importance, which deserves more attention than it has as yet received, is whether other cranial nerves, either sensory or motor, exhibit changes post mortem, or give rise to symptoms ante mortem, of a similar character to those found in connection with the optic nerve and vision. The cranial nerves frequently suffer from the direct pressure of intracranial growths, but among the whole number of cases collected, or among a large number of papers consulted on this subject, one or two only furnish any allusion to anatomical changes, to symptoms due to increased intracranial pressure, or to neuritis produced by a tumor not directly in contact with a nerve-trunk other than the optic.

From the anatomical arrangement and openness to observation, as well as the careful study devoted to it, it is, of course, more likely that the changes in the optic nerve should have been discovered and discussed before similar alterations in other sensory or even motor nerves. While it may be true that the anatomical connection of the optic nerve with the brain and cranial cavity being such as it is, and quite peculiar to itself as distinguished from the other cranial nerves, alone subjects it to the changes which we know occur in this nerve from this cause, still it is not improbable that some, if not similar, alterations or symptoms may affect other nerves. One of the cases of this collection furnishing some evidence in support of this hypothesis was an instance of alteration in the sense of smell (subjective olfaction). The auditory nerve seems to be the one in which the next move in advance will most probably follow the discovery in connection with the changes of vision. The structure and function of this sense are the next best studied, and it is probable that some of the uses of the auditory nerve are at present unknown. The comparatively recent statement that the semicircular canals of the ear have to do with the equilibration of the body seems to furnish a pathway of advance in the study of this hypothesis. The symptom of vertigo, so universally coming as the result of an intracranial growth, may be a phenomenon of similar import to some of the symptoms in relation to vision. Hasse has pointed out that the semicircular canals are connected with the cranial cavity by means of lymph-passages passing through the substance of the petrous bone. If, therefore, the intracranial pressure is increased, and does, as we know, propagate such pressure, by means of the optic-nerve sheaths, to the intraocular end of the optic nerve, it is not unlikely that pressure should be felt within the semicircular canals, and that similar symptoms should occur as in aural vertigo or Ménière's disease.

Dr. SHAKESPEARE said that he could not endorse the sentiments enunciated in the opening of the debate concerning the relative frequency of choked disk in tumors of the cerebellum and the comparative infrequency

of ocular trouble in hydrocephalus and tubercular meningitis. Neither his reading nor his personal observations permitted him to accept the opinion very widely entertained, that the occurrence of choked disk is much oftener associated with tumors located beneath the tentorium than in other places. Careful analysis of reported cases has repeatedly shown that disturbance of the optic nerve in intracranial disease is far more common in lesions at the base of the brain than at any other point within the cavity of the cranium. Such investigations have very positively demonstrated the fact that nowhere is any morbid growth—a tumor or an inflammatory exudation—so likely to cause serious trouble somewhere in the course of the visual nerve as when it is located at the base of the brain in the middle fossa and near the median line. And this is what should be rationally expected, in view of what is known of the anatomy and of the pathology of this region. For it is just here—in the neighborhood of the cavernous sinus, of the optic foramen, of the optic nerves, the chiasm and optic tracts, etc.—that an exostosis, a thickening of the membranes, a comparatively localized meningitis, a small or a large morbid growth, can most certainly do mischief to the continuity of the optic nerves, or affect their blood or lymph circulation. Among several who, during the last decade, have studied large collections of cases, Allbutt and Annuske may be mentioned in support of these remarks. Of five or six cases of optic-nerve lesion associated with brain-tumor which had come under the observation of Dr. Shakespeare during the last two years, in all but two the tumor was seated at the base of the brain *in front* of the posterior fossa; and of the two exceptions, one was a tumor of the pia mater destroying a small extent of the cerebral cortex of both the right anterior and posterior transverse parietal convolutions about midway in their course; the other was the case already referred to by Dr. Mills, where a large tumor was located in an anterior lobe. These two cases offered the most marked examples of choked disk he had ever seen.

Concerning the frequency of lesions of the optic nerve in cerebral affections, he thought that several considerations should induce us to give small weight to some objections which have been urged against the value and the significance of the presence or absence of evidence of disease at the intraocular end of the visual nerve in cranial disorders. In the first place, it is now well known that in œdema of the disk, in "stauungs-papilla," and even in neuritis and in the early stages of simple optic atrophy, vision is often not sufficiently affected to attract the attention either of the patient or physician; yet this fact has no doubt caused many cases of optic-nerve involvement to be entirely overlooked and excluded from the number which has furnished the percentage of optic-nerve lesions in the various forms of cerebral disorders. In the second place, there can be little doubt that, even where the ophthalmoscope has been used, many cases of eye lesion have been unrecognized or misconstrued. It is a patent fact that even experienced observers have confused choked disk with descending neuritis. Not infrequently the early stages or the slightly-developed forms of each of these two distinct affections have failed of recognition; especially is this likely to have been the case where the eye-ground has been examined by one not greatly skilled in the use of the ophthalmoscope,—an instrument which is even more difficult to master than is the microscope. Here, again, it is very probable that a large number of cases which would properly belong in the category of eye troubles dependent upon intracranial lesions have been excluded.

In making ophthalmoscopic examinations in these cases, the varying pictures of what has been called choked disk have not always been sufficiently appreciated. It has been very clearly demonstrated that the complete process known as choked disk, if it be allowed to pass from beginning to end, presents five distinct stages, each one of which affords an ophthalmoscopic picture different from the others, and which is more or less characteristic according to the activity of the special phase of the morbid process at work at the time of observation, whether it be œdema, engorgement, inflammatory exudation, partial atrophy, or complete atrophy. From examination of the fundus during the continuance of either the first or last stage alone, it is extremely difficult, if not indeed impossible, to say that there has been or will be developed a stauungs-papilla or choked disk. So, also, the ophthalmoscopic picture of descending neuritis may be considered as a shifting scene of at least four parts, each different from the others, and the two last sometimes so closely resembling the fourth and fifth stages of genuine choked disk as to make it nearly impossible by the eye to separate the one from the other. It is often difficult to discriminate between a simple degenerative atrophy of the optic disk and such atrophies as follow in the course of choked disk, descending neuritis, and other acute or subacute irritations of the nerve. In these varying pictures he found further reason to believe that a still larger number of cases of involvement of the nerve of vision had been excluded from the enumeration.

He could therefore readily accept the conclusions which Annuske had proclaimed at the end of his study of nine hundred and twenty cases,—viz., that neuritis (or choked disk) is an almost constant symptom in cerebral tumors, and that there ought to be assigned to it a value greater than that which has been accorded to it up to the present time.

Dr. Shakespeare also excepted to the intimation that in hydrocephalus and in tubercular meningitis choked disk and optic neuritis are infrequent occurrences. Several writers who have enjoyed abundant opportunities of studying the eyes in these affections, both in children and in adults, use most positive language expressive of their belief that at some time in the course of the trouble either choked disk or optic neuritis makes its appearance. Allbutt may be quoted in support of this opinion. Bouchut is still more dogmatic in his declarations on this point; and numerous other equally high authorities might be cited.

He admitted as possible the production of choked disk by the intervention of any one or more of the causes claimed by authors, but he thought that in the vast majority of cases the strangulation of the disk is caused by a damming up of the lymph in the sub-vaginal space of the optic nerve. He could not deny the force of the experiments and investigations of Schwalbe, Schmidt, Manz, *et al.* upon the lower animals. His own experiments, made in conjunction with Dr. Norris, upon still-born and older children, clearly demonstrated to him the existence in the human subject of a comparatively free communication between the lymph spaces surrounding the ocular end of the optic nerve and those of the sub-arachnoid of the brain. In the same connection, he thought that those cases reported of pachymeningitis hæmorrhagica, and of suppurative meningitis, in which, respectively, blood and pus had been found present in the sub-vaginal space of the optic nerve post mortem, offered the strongest evidence in corroboration of experimental researches. He consequently saw no way to escape the conclusion that an increased amount of fluid at the base of the brain, or any other condition which would naturally interfere with the free voidance of lymph from the sub-vaginal space of the optic nerve, could very readily occasion an œdema of the optic disk and the development of a genuine "stauungs-papilla." He had been much interested in the remarks advanced, in the course of the debate, upon conditions of other nerves of the cranium analogous to that of the optic nerve. Concerning inflammation, it has already been sufficiently shown, by microscopic examination, that a descending neuritis, identical, histologically, with that which often attacks the optic nerves, may extend along any of the nerves which pass from the cranium at points where the conditions are favorable. Reasoning *a priori*, we would have every right to assume that an increased quantity of fluid in the sub-arachnoid spaces of the brain could cause an œdema of any nerve favorably situated with respect to the location of the fluid; and observations are not wanting in support of this rational assumption.

He desired to state a fact which would possibly throw some additional light upon the subject. While making his injections into the sub-arachnoid spaces of the brain, for the purpose of tracing the lymph connection between that organ and the eye, he had found, in several cases, that the injection also passed into the meninges of the spinal cord, from one end of it to the other, and also travelled along the course of each one of the spinal nerves as far as they were traced,—beyond the bony canal.

REVIEWS AND BOOK NOTICES.

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS. By FANCOURT BARNES, M.D. Aberd., M.R.C.P. Lond., Physician to the General Lying-in Hospital, etc. Philadelphia, H. C. Lea, 1879. Octavo, pp. 201.

This little volume at the first view presents an attractive appearance. On opening the book we find it to be handsomely printed on tinted paper and embellished with a number of well-executed wood-cuts of large size for the dimensions of the work.

Scanning its pages, our admiration for the publisher's work is quickly changed for a feeling of disappointment at that of the author.

Whatever objections exist in the mind of the student to manuals as a class, all must admit that under certain circumstances they are useful; but in the case before us we have an illustration of nearly all the objections which can be urged against such works.

We find, on perusing the title-page and preface, that the book is intended for midwives, though it is also recommended to students of medicine or recent graduates in attendance on their first cases of labor. After reading this and finding the volume so small, we at once conjecture that we shall find in the body of the work a brief, practical, and distinct account of all those methods of treatment of normal labor and the minor diseases of the pregnant and parturient woman which relieve her from many annoyances and often act as prophylactics of more serious disease. What is our surprise, therefore, to find an attempt made to cover almost the whole subject of obstetrics in a work of less than two hundred pages, much of the space on which is occupied by large wood engravings!

As an inevitable result, much of practical importance is left out; and we do not think the author has displayed very good judgment in this respect. If there is one pathological condition which claims the earnest attention of the midwife and taxes her utmost skill more frequently than another; if there is any morbid condition in which precaution and early attention save weeks of suffering to both mother and child, it is to be found in

sore nipples: and yet our author dismisses the whole subject in eleven lines. Extra-uterine pregnancy, its varieties, causes, symptoms, history, and treatment, are all embraced in less than a page. Version by the introduction of the hand into the uterus—an operation sometimes performed very successfully by women—is not described; neither is the application of the forceps; while, on the other hand, we find a whole chapter, liberally illustrated, devoted to deformed pelves, their varieties, causes, etc.

Nor is this all: the style is indefinite, and omissions and inaccuracies are frequently observable. The axis of the cavity of the pelvis is said to consist of a series of "imaginary lines drawn at right angles to the various imaginary planes of the pelvis," the word "centres" being omitted. We are told that the cavity of the true pelvis is lined with the psoas and iliacus muscles. In describing the supports of the uterus, no mention is made of the strong utero-sacral ligament, which, according to Aren and others, constitutes the chief support of this organ. Among the signs of pregnancy, no allusion whatever is made to the changes in the sebaceous glands of the areola, to which Montgomery gives so much value.

The directions for treatment, it seems to us, are not sufficiently comprehensive; nor are they given with the clearness which in such a work is imperatively required. In describing that for puerperal convulsions, bleeding is not even mentioned, reliance being placed entirely upon chloroform, chloral hydrate, the bromides, and morphia. In post-partum hemorrhage the attendant is directed, after using ergot, manipulation, and cold applications, "to inject *a solution of iron* (*sic*) into the uterine cavity." In describing the method of treatment of placenta prævia, no distinction is made between partial and complete.

These few instances are all that our space will permit of giving, but we might fill pages with extracts of like nature. The author seems to be well up to the times in his views of pathology, so far as he enables us to understand those views, and writes in an agreeable, easy manner.

The last chapter in the book, on the management of infants, is, in our opinion, the best, and contains some very useful advice, though, in common with most English works upon this subject, weaning, either partial or complete, is recommended at an earlier age than is found to be compatible with safety in our climate. E. R.

MEMORANDA ON POISONS. By THOMAS HAWKES TANNER, M.D., F.L.S. Fourth (American) Edition. Philadelphia, Lindsay & Blakiston, 1879. 32mo.

This manual of the late Dr. Tanner has been carefully edited, with some emendations, and continues to be one of the most useful books of its class. Toxicology is one of those things that the average doctor knows more about on the day of examination for his degree than at any subsequent period; and yet the knowledge is just such as may be required at any moment. We venture to call this one of the few books that no physician can afford to be without.

LABORATORY TEACHING: PROGRESSIVE EXERCISES IN PRACTICAL CHEMISTRY. By CHARLES LOUDON BLOXAM, Professor of Chemistry in King's College, London, etc. Fourth Edition, with Eighty-Nine Illustrations. Philadelphia, Lindsay & Blakiston, 1879.

Students of chemistry twenty years ago regarded "Abel & Bloxam" as one of their most valuable helps; and when the surviving author of that well-known work put forth his manual of "Laboratory Teaching," it was very generally sought for, and has proved its value by running through three editions. For the beginner in chemistry, or for the medical student who desires a knowledge of practical chemistry and of the ordinary operations of the laboratory, this book is to be recommended as a safe and satisfactory guide. The directions are simple and clear, the illustrations to the point, and the apparatus described is not expensive. It is a book which should be in every laboratory.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. Volume VIII., containing the report of the Proceedings from September, 1877, to July, 1878. Edited by J. HENRY C. SIMES, M.D., etc. Philadelphia, printed for the Society by J. B. Lippincott & Co., 1879.

This volume of the Pathological Society's "Transactions" contains the record of a fair year's work, about seventy contributions being included, under the head of affections of the osseous system, the digestive apparatus, the vascular, respiratory, and genito-urinary system, together with the organs of special sense. The long and very complete dissertation on "The Causal Lesions of Puerperal Eclampsia," by Prof. James Tyson, and the reports of the Committee on Morbid Growths, are worthy of the Society. We regret the comparatively small number of active workers in the Pathological; the names of only thirty contributors appear in the present volume.

INTRAVASCULAR ALIMENTATION BY PEPTONE.—Dr. G. B. Fowler recently injected six ounces of a solution of beef peptone into the median basilic vein of a patient of Dr. Paul F. Mundé, who had become exhausted by uterine hemorrhage, with a favorable result. The method of making the peptone and the apparatus used for injection will be found described in the *New York Medical Journal* for June, 1879.

GLEANINGS FROM EXCHANGES.

OPERATION FOR THE RADICAL CURE OF CONGENITAL INGUINAL HERNIA IN THE CHILD. — Dr. George Buchanan, finding Wood's operation with pins unsuccessful in his hands, determined to perform an operation consisting of opening the sac and obliterating the canal by the introduction of strong sutures. He reports the case of a male child, of 16 months, who was the subject of congenital inguinal hernia, which was observed shortly after his birth. It had grown with his growth, and when examined was the size of a turkey's egg, and distended the left side of the scrotum. Trusses had failed to keep it in place. When it was reduced the finger could be pushed into the abdomen, but the gut came down alongside of it. The operation was as follows:

The patient having been chloroformed, the rupture was returned and kept up by the finger of an assistant; a longitudinal incision was made along the whole length of the sac, from opposite the internal ring to the bottom of the scrotum. This divided all the textures down to the peritoneal sac, which, as usual, had been thickened by the presence and movements of the hernia. With the handle of the knife and a few touches of its point Dr. Buchanan separated the sac from its superficial structures, leaving the posterior part lying over the cord, which was seen behind. He then divided the sac into two halves by a transverse cut, except at the back, where it was adherent to the cord. One-half was folded down over the testicle so as to form a sort of tunica vaginalis. The upper half was rolled into a ball or plug, which he pushed into the internal abdominal ring, and had it kept there by an assistant. The walls of the inguinal canal were now approximated as in the operation for radical cure of hernia in the adult. Pushing aside the structures so that the relations of the ring and canal could be seen, a strong nævus needle was pushed through the external pillar of the canal at a spot opposite the internal ring. Then, guiding it with the point of his left fore-finger lying in the internal ring, he made it lift up the lower border of the internal oblique muscle and emerge through the internal pillar of the external aponeurosis, about half an inch above its lower edge. A strong waxed-silk thread was now passed through the tissues with the aid of the needle, and this was followed by a second, including the rolled-up bit of sac carefully placed with its external raw edge outwards. The edges of the external ring were now drawn together tightly above the cord by a strong silver wire made to take a very strong deep hold. For this purpose it passed through the tendon of insertion of the internal rectus. The wire, when drawn through, was clamped and retained by a little rod of silver. The silk threads and wire hung out of the bottom of the wound, which was closed with antiseptic precautions. The child was placed on a St. Andrew's cross, the upper arms of which were joined by a sheet of calico, on which the body rested, the legs being securely bandaged with strips of adhesive plaster to the lower limbs of the cross. The pelvis and chest were also securely fixed to the apparatus. In this way the movements of the child were securely controlled. A perfect recovery was the result; and Dr. Buchanan says he shall in future employ this operation, not only in the case of children, but also in adults, where the operation for strangulated hernia has been performed.— *British Medical Journal*, May 17, 1879.

ABSENCE OF SIGHT IN ONE EYE WITHOUT THE CONSCIOUSNESS OF THE PATIENT.—Dr. C. R. Agnew reports the case of an intelligent lawyer, 33 years of age, who saw perfectly well with one eye, while his other eye was so blind as to be practically useless, except as it enlarged his field of vision, without any suspicion on his part that he saw any better with one eye than with the other.

Inspection showed the right eye normal in every respect, while vision in the left was only one-thirty-third that of its fellow. Upon examining this eye with the ophthalmoscope he found that there was no error of refraction, and that the cause of the great functional disability of the eye was a large plaque of choroidal atrophy occupying the region of the macula. This plaque was irregularly circular, about four times as large as the optic disk, richly bordered with pigment, and with large choroidal blood-vessels coursing through it in various directions. It was not very nearly approached by any of the retinal blood-vessels. The optic disk and other parts of the fundus were apparently healthy.

It seemed most probable, from the appearance of this atrophic plaque, and from the fact that there was no history of conscious trouble with this eye, that it was a congenital defect.— *The Hospital Gazette*, July 5, 1879.

MUSCLE-BEATING.—Dr. Althaus describes an instrument intended to take the place of rubbing and shampooing. It consists of an india-rubber handle, from the upper part of which three sticks, or rather tubes, likewise of india-rubber, are made to branch off. The patient is directed to take hold of the handle, and to beat rhythmically with the tubes the part upon which it is intended to act. The instruments are made of different sizes and strength, according to the requirements of the case, and it is recommended to continue the beating for ten minutes at a time.

Dr. Althaus advises its use in infantile paralysis and for chilblains; for habitually cold feet, and in slight cases of muscular rheumatism, it deserves a trial. He would, however, prohibit its use in cerebral paralysis, or

wherever there may be some central irritation, whether cerebral or spinal.—*British Medical Journal.*

WARM WATER IN SURGERY.—Dr. A. H. Goelet, confirming Dr. Hamilton's views, reports cases of traumatic erysipelas, lacerated and contused wounds in general, but especially those of the scalp, compound fractures, gunshot wounds, and traumatic gangrene. The warm-water application may be made: (1) by a water bath, when the limb is submerged in water kept constantly at the same temperature (generally about 100° F.), disinfected when so desired, and changed as often as necessary (about twice a day will generally suffice); (2) by means of hot fomentations, which consist of a layer of cotton batting, or two thicknesses of sheet lint, saturated with hot water (previously disisinfected if so desired), applied closely and evenly to the part, and kept at an even temperature by a covering of oiled silk. In this case it will be necessary to wet the dressing about every two hours, and change it twice a day, or oftener in cases where there is profuse suppuration. In cases of erysipelas the dressing must extend a little beyond the limit of inflammation. Dr. Goelet gives a number of cases in which one or the other of these plans of treatment was employed with great success. — *American Journal of the Medical Sciences*, July, 1879.

TOPICAL USES OF ERGOT.—Dr. William C. Dabney has used ergotin in *conjunctivitis*, where the blood-vessels were enlarged and tortuous, with excellent results. The eye was frequently cleansed with warm water, and after each washing a few drops of the following solution were instilled:

℞ Ext. ergotæ, gr. x;
Glycerinæ, fʒi;
Aquæ, ad fʒi.—M.

In *acute* conjunctivitis, or where there is much intolerance of light, the result is not so satisfactory. In *pterygium*, Dr. Dabney has also used ergot successfully, a solution of the strength mentioned being used three times a day, and the growth checked thereby. In *pharyngitis* a solution of Squibb's solid extract is useful, and in other pharyngeal affections the following formula has been found to do good:

℞ Ergotinæ, gr. xx;
Tinct. iodini, fʒi;
Glycerinæ, ad fʒi.—M.

To be applied to the pharynx freely twice a day with a camel's-hair brush.

In uterine troubles, particularly *cervical metritis*, the following suppositories may be used with advantage:

℞ Ergotinæ (seu ext. ergotæ), gr. xx;
Ext. belladonnæ, gr. ij;
Ol. theobromæ, q. s.
M. Fiat in suppos. no. vi.

Insert into the vagina every night after the hot douche. In warm weather, a pledget of cotton saturated with the following solution may be inserted into the vagina every night after the hot douche:

℞ Ergotinæ (seu ext. ergotæ fld.), ʒss;
Ext. belladonnæ, gr. vi;
Aquæ et glycerinæ, ää, fʒiv.—M.

—*American Journal of the Medical Sciences*, July, 1879.

HOW TO MAKE A SPICE-BAG.—Take half an ounce each of cloves, allspice, cinnamon, and anise-seeds, bruised, but not powdered, in a mortar, put these between two layers of coarse flannel about six inches square, and quilt them in. Soak this for a few minutes in hot spirits (brandy, whisky, or alcohol) and water, equal parts. It is to be applied while warm; renewing it when it gets cool. Used in the diarrhœa of infants and children we get not only the effects of a poultice, but also the sedative and antiseptic effects of the spices. —Dr. A. A. Smith, in *New York Medical Record.*

TREATMENT OF INFANTILE CONVULSIONS.—Dr. Simon says that in general the prognosis of convulsions is not serious. Convulsions ushering in an acute disease are not dangerous, whereas those occurring at its close are nearly always fatal. Repetition of convulsions renders the prognosis more and more unfavorable. Until urine has been freely voided an attack of eclampsia cannot be considered as terminated.

As to treatment, Dr. Simon takes issue with the late Prof. Trousseau, who advises little or no treatment. Dr. Simon proceeds at once to an active treatment without attempting too fine a diagnosis. He first administers a purgative enema containing senna, five grammes, and sulphate of sodium, fifteen grammes, or, lacking these ingredients, he extemporizes a stimulating injection. Next, at the first subsidence of spasm, he empties the stomach by an emetic. If the attack continue, he himself prepares and administers a hot mustard bath to the little patient. A sedative draught containing bromide of potassium, two grammes, syrups of codeia and of ether, cherry-laurel water, etc., is to be given (to a child fifteen months old) in small quantities, as rapidly as the child will take it.—*Archives of Medicine*; from *Gazette Médicale.*

CARBOLIC ACID ENEMATA FOR SEAT-WORMS.—A German writer having reported a case of poisoning from an enema containing one-half per cent. carbolic acid, Mr. J. Sidney Pearse writes to the *British Medical Journal* (June 7) to say that he has used this remedy in over a hundred cases without bad result, and has found it much more efficacious in the removal of ascaris vermicularis than injections of iron, quassia, lime-water, etc.

Unpleasant symptoms sometimes follow, lasting perhaps an hour, but usually much less. Six ounces of the one-fortieth or one-sixtieth solution are commonly used. Within two minutes the patient complains of giddiness, singing in the ears, clammy skin, and

taste of the acid in the mouth. There has been occasional abdominal pain, and, in one or two instances, confusion of ideas for the next twenty-four hours. In no case has any sign of collapse followed. There is a tendency to constipation for a day or two, which may be obviated by the administration of a saline draught. Adult males alone have been experimented upon.

MILK DIET IN HEART DISEASE.—M. Sée, in his book on the treatment and diagnosis of heart disease, regards milk as a most powerful diuretic. He does not approve of exclusive milk diet, which, in his opinion, reduces the patient to a state of extreme inanition, but prescribes a mixed milk diet of about two litres and a half of milk per diem added to the patient's usual food. This does not in the least interfere with the diuretic effects of milk. These effects must not be attributed merely to the water contained in the milk, as has been supposed by some authors, because the same quantity of pure water would in no wise produce the same results. It is evident, therefore, that only the sugar and salts possess the diuretic properties, their action being similar to that produced by salts of potash and soda by their osmotic power. These diuretic properties seem to be much more powerful when the milk has not been boiled. It should therefore be taken unboiled, and fresh from the cow if possible, or, at least, lukewarm, as cold milk does not act in the same way. It seems as if boiling the milk destroyed these properties; nevertheless, it must never be forgotten that some patients can only digest milk when boiled, so that the rule is not without exception.

Another curious point in the action of milk is that it is equally powerful in cases where the cardiac affection is not combined with dropsy. M. Sée has often observed that patients who either no longer suffered from dropsy, or never had suffered from it, were extremely benefited by a mixed milk diet. The action of the heart became much calmer and more regular, and the palpitations disappeared altogether. M. Sée entirely disapproves of whey and grape cures for patients with heart disease.—*London Medical Record*, May 15, 1879.

INHALATION OF EUCALYPTUS OIL.—Dr. Mosler, of Greifswald (*Berliner Klin. Wochenschrift*, No. 21), strongly recommends oil of the leaves of eucalyptus, administered by inhalation, as a remedy for pharyngeal diphtheria. The strongest dose which he has given was according to the following formula: oil of eucalyptus leaves, 5 grammes; rectified spirit, 75 grammes; distilled water, 170 grammes; to be shaken together and used for ten inhalations. In this dose the medicine was inhaled four times daily, for ten or fifteen minutes each time, by a patient suffering from bronchitis and chronic laryngitis; it produced no troublesome effect, but acted as a powerful expectorant. Another formula employed by him was: oil of eucalyptus leaves, 2 grammes; rectified spirit, 20 grammes; distilled water, 180 grammes; for ten inhalations. This was given with the best effect in a case of croupous pneumonia in the stage of defervescence, with residual infiltration of the right upper and middle lobes. It was inhaled four times without any bad effect. A still weaker preparation (1.5 of eucalyptus oil, 15 of spirit of wine, and 200 of water) has been used by him in several cases of nasal and pharyngeal catarrh, and also in a case of acute pharyngitis accompanied by slight laryngitis, with good effect. Dr. Mosler is engaged in further researches on the action of inhalation of eucalyptus oil in affections of the respiratory organs.—*British Medical Journal.*

ARTIFICIAL CATAPLASM, A SUBSTITUTE FOR ORDINARY LINSEED MEAL POULTICE.—Volkhausen prepares cataplasms consisting of a piece of white thick felt paper which is saturated with a decoction of linseed. When intended to be used, the paper is dipped into hot water, swells considerably, is then applied, covered with caoutchouc paper, fastened with bandages or string, and allowed to remain for twelve hours before a new one needs to be applied.—*Am. Journal of Pharmacy;* from *Pharm. Ztg.*, February 12, 1879, p. 95.

THE SPHYGMOPHONE.—Dr. Richardson has invented an apparatus which he calls the sphygmophone, by which he transmutes the movements of the pulse into loud telephonic sounds. The sounds can be heard by an audience of several hundred people. By extending the telephonic wires, a physician in his office might listen to the heart or pulse of a patient lying in bed a mile or two away. The sounds yielded by the natural pulse are said to resemble the two words "bother it."—*Lancet.*

CHAULMOOGRA OIL is highly recommended in scrofula of children. The dose is six to fifteen drops to adults, three times daily, a short time after meals. The dose for infants is from two to three drops. The oil is best administered in cod-liver oil, or, when this cannot be taken, in glycerin or milk. It should at the same time be applied externally. Spices should not be eaten, but a fatty diet is recommended.—*British Medical Journal.*

CHLORIDE OF BARIUM IN ANEURISM.—A correspondent of the *British Medical Journal* (August 2) says that he has treated a case of abdominal aneurism, at the unpromising age of 63, with one-fifth to two-fifths grain doses of chloride of barium, with great success, after failure of five months' rigid adherence to absolute rest and Tufnell's diet. The case was seen by several other physicians, who all coincided in the diagnosis, and the reliability of the improvement has been verified by two of them.

MISCELLANY.

A NEW USE FOR SUPERNUMERARY FINGERS AND TOES.—These members have hitherto been lopped off without any one dreaming that they might be useful to science; but recently, at a meeting of the London Epidemiological Society, Dr. Cory described certain experiments made by vaccinating supernumerary fingers and toes, and then cutting these off at the end of a number of days, varying in different cases. Revaccination was practised a couple of months afterwards, with the result of showing, apparently, the imperfect protection afforded by vaccination when the vesicles are removed before their full maturity. The new vaccination seemed to begin at the stage where the old vaccination had been cut off.

"A STOMACH LIKE AN OSTRICH."—M. Alfred Ebelot says that the dwellers on the pampas of South America eagerly collect the pepsin of ostriches and sell it for its weight in gold "to restore worn-out stomachs." If ostrich pepsin could be introduced into the market, it would undoubtedly be in great demand. At dinner this preparation might be handed around with the cheese, and the *gourmet* could attack his *pâté de foie gras* with a light heart, saying, with the hearty old gentleman in *Punch*, "Doesn't agree with you? Bah! I never heard of such a thing. Why, I just eat what I please and drink what I please, and then go to bed *and let them fight it out among themselves*."

THE Board of Pharmacy of the City and County of New York announces the organization, under its control, of an office for the examination and verification of weights and measures of precision. For a small fee any pharmacist may have his weights examined and verified, the stamp of the Board being placed upon them, so that no one may have occasion to doubt their accuracy. It is stated that a large proportion of the cheaper weights in the market are utterly worthless.

A NEW medical journal is about to be issued from the press of Hirschwald, in Berlin, to be entitled the *Zeitschrift für Klinische Medicin*. The scope of the journal will be about the same as that of *Virchow's Archiv*, with rather more attention to the connection between pathology and therapeutics. Profs. Frerichs and Leyden are the editors.

THE METRIC SYSTEM (REVISED).—One of the first essentials, if the metric system is to be introduced without undue sacrifice of life, is careful proof-reading. The *Toledo Medical and Surgical Journal* describes the ordinary nickel five-cent piece as a *metre* (39.369 inches) in diameter,—in other words, about the size of a cart-wheel!

ENORMOUS CALCULUS.—According to the *Berliner Klinische Wochenschrift*, an enormous calculus was lately exhibited by Dr. Langenbeck, of Berlin. He removed it after death from the bladder of a man who had suffered for many years from urethral stricture. Its weight was six hundred grammes (eighteen ounces). It almost filled the bladder. No foreign body was found as a nucleus. It was composed wholly of phosphatic layers.

GLYCERIN IN 1848 AND IN 1879.—Mr. Shoemaker, in an interesting account of the early manufacture of glycerin in this country, published in the *American Journal of Pharmacy*, says that he began selling it in 1848 at the rate of $4.00 per lb. It can now be produced for 18 cents per lb. The chief demand, one is surprised to learn, comes from the brewers. It is estimated that over 40,000 pounds are drunk annually in beer in this country alone.

HYPODERMIC INJECTION OF ALOIN AS A PURGATIVE.—Fronmüller uses a solution of one part in twenty-five of very warm water, which produces an evacuation in six to fourteen hours; rarely in two to three.

LEPROSY IN SPAIN.—We learn from a correspondent of the *New York Medical Record* that, so far from having disappeared or nearly so, leprosy is, in Spain, rather on the increase.

AT the recent commencement of Brown University the honorary degree of LL.D. was conferred upon Dr. Isaac Ray of this city.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 10 TO AUGUST 23, 1879.

PERIN, GLOVER, LIEUTENANT-COLONEL AND SURGEON, Medical Director of the Department.—Granted leave of absence for one month on Surgeon's certificate of disability. S. O. 160, Department of the Missouri, August 20, 1879.

FORWOOD, W. H., MAJOR AND SURGEON, McPherson Barracks, Atlanta, Ga.—Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 128, Department of the South, August 13, 1879.

HORTON, S. M., MAJOR AND SURGEON.—Granted leave of absence for two months. S. O. 42, Division of the Atlantic, August 12, 1879.

GIRARD, J. B., CAPTAIN AND ASSISTANT-SURGEON, Fort Davis, Texas.—Granted leave of absence for one month on Surgeon's certificate of disability, with permission to leave the limits of the Department. S. O. 168, Department of Texas, August 8, 1879.

MOFFATT, P., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at the new post in the vicinity of Lake Chelan (W. T.), to which post he will proceed at the end of the current month. S. O. 96, Department of the Columbia, July 28, 1879.

BANISTER, J. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, to report to the Commanding Officer, Fort Leavenworth, Kansas, for temporary duty. S. O. 151, Department of the Missouri, August 7, 1879.

CARTER, W. F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Now at San Antonio, to proceed to Fort Concho, Texas, and report to the Commanding Officer, District of the Pecos, for duty in that District. S. O. 164, Department of Texas, August 4, 1879.

FITZGERALD, J. A., CAPTAIN AND ASSISTANT-SURGEON.—Died at Columbia, Pa., August 11, 1879.